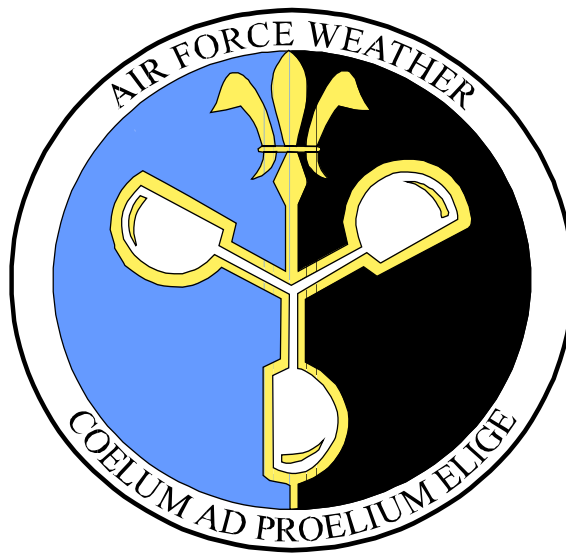


DEPARTMENT OF THE AIR FORCE  
Headquarters US Air Force  
Washington DC 20330-1000

CFETP 15WX  
Parts I and II  
March 1999

**AFSC 15WX/A**

**Weather Officer**



**“Exploit The Weather For Battle”**

**CAREER FIELD EDUCATION  
AND TRAINING PLAN**

**CAREER FIELD EDUCATION AND TRAINING PLAN  
WEATHER SPECIALTY  
AFSC 15WX/A**

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**WEATHER SPECIALTY  
AFSC 15WX/A  
CAREER FIELD EDUCATION AND TRAINING PLAN**

**Part I**

***Preface***

1. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education and training requirements, training support resources, and minimum requirements for this specialty. This CFETP will provide personnel a clear career path to success and will instill rigor in all aspects of career field training for weather officers.

2. The CFETP consists of two parts; both parts of the plan are used by supervisors and Operational Weather Squadron Training Flights to plan, manage, and control training within the career field.

2.1. Part I provides information necessary for overall management of the specialty. Section A explains how everyone will use the plan; Section B identifies career field progression information, duties, and responsibilities; Section C associates each level with specialty qualifications (knowledge, education, and training); and Section D indicates resource constraints.

2.2. Part II includes the following: Section A identifies the Course Training Standard (CTS), technical references to support training, Air Education and Training Command (AETC) conducted training, and correspondence course requirements. Section B identifies a training course index supervisors can use to determine resources available to support training.

3. Using guidance provided in the CFETP will ensure officers in the 15WX specialty receive effective and efficient training at the appropriate points in their career. At the unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this plan. **NOTE:** They will also use part II to support position qualification training for civilians in similar duty positions.

**Abbreviations and Terms Explained**

**Air Force Career Field Manager (AFCFM).** Functional community manager for all matters related to the training and utilization of individuals within a particular AFSC.

**Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS).** A comprehensive task list, which describes a particular job type or duty position. They are used by supervisors to document task qualifications. The tasks on AFJQS/CJQS are common to all persons serving in the described duty positions.

**Air Force Specialty (AFS).** The basic grouping of positions requiring similar skills and qualifications.

**Allocation Curves.** The relation of hours of training in different training settings to the degree of proficiency, which can be, achieved on specified performance requirements.

**Career Field Education and Training Plan (CFETP).** A CFETP is a comprehensive, multipurpose document encapsulating the entire spectrum of education and training for a career field. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

**Career Training Guide (CTG).** A document that uses Task Modules in lieu of tasks to define performance and training requirements for a career field.

**Continuation Training (CT).** Additional training to maintain and improve job proficiency.

**Core Task.** A task that Air Force career field managers identify as a minimum qualification requirement within an Air Force specialty or duty position.

**Course Training Standard (CTS).** Establishes the training requirements using tasks, knowledge, and proficiency levels for formal course and provides the basis for the development of more detailed training materials, training objectives, and training evaluation instruments for the course.

**Exportable Training.** Additional training via computer assisted, paper text, interactive video, or other necessary means to supplement training.

**Field Technical Training (Type 4).** Special or regular on-site training conducted by a field training detachment or by a mobile training team.

**Initial Skills Course.** A formal resident course attended upon entry into the weather career field (AFSC 15W1).

**Instructional System Development (ISD).** A deliberate and orderly, but flexible process for planning, developing, implementing, and managing instructional systems. It ensures personnel are taught in a cost efficient way the knowledge, skills, and attitudes essential for successful job performance.

**Occupational Survey Report (OSR).** A detailed report showing the results of an occupational survey of tasks performed within a particular AFS.

**On-the-Job Training (OJT).** Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill level award) and job qualification (duty position certification) training.

**Operational Weather Squadron (OWS).** A regional/theater weather center responsible for in-depth weather support to operations within its AOR.

**Optimal Training.** The ideal combination of training settings resulting in the highest levels of proficiency on specified performance requirements within the minimum time possible.

**Qualification Training (QT).** Actual hands-on task performance training designed to qualify an individual in a specific duty position. This portion of the dual channel on-the-job training program occurs both during and after the upgrade process. It is designed to provide the performance skills required to do the job.

**Qualification Training Package (QTP).** An instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. It may be printed, computer-based, or in other audiovisual media.

**Representative Sites.** Typical organizational units having similar missions, weapon systems or equipment, or a set of jobs, used as a basis for estimating average training capacities and costs within the Training Impact Decision System (TIDES).

**Resource Constraints.** Resource deficiencies, such as money, facilities, time, manpower, and equipment that preclude desired training from being delivered.

**Special Experience Identifier (SEI).** A USAF classification tool that identifies experience and/or training not otherwise identified in the Personnel Data System.

**Specialty Training Standard (STS).** An Air Force publication that describes skills and knowledge that airmen in a particular Air Force specialty need on the job. It further serves as a contract between the Air Education and Training Command and the user to show the overall training requirements for an Air Force specialty code that the formal schools teach.

**Task Module - (TM).** A group of tasks performed within an Air Force specialty that are performed together and that require common knowledge, skills, and abilities. TMs are identified by an identification code and statement.

**Training Impact Decision System (TIDES).** A computer-based decision support technology being designed to assist Air Force career field managers in making critical judgments relevant to what training should be provided personnel within career fields, when training should be provided (at what career points), and where training should be conducted (training setting).

**Training Requirements Analysis.** A detailed analysis of tasks for a particular AFS to be included in the training decision process.

**Utilization and Training Workshop (U&TW).** A forum of Air Force, MAJCOM, and Field Operating Agency (FOA) AFS functional managers; subject matter experts (SMEs); and AETC training personnel which establish career ladder training requirements.

## ***Section A - General Information***

**1. Purpose.** This CFETP provides the information necessary for Air Force Career Field Managers (AFCFM), MAJCOM Functional Managers (MFM), training management, supervisors and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the training that individuals in the 15WX career field should receive in order to develop and progress throughout their career. For purposes of this plan, training is divided into entry level, qualification, upgrade, and continuation training. Entry-level training is the 15WX specific initial skills training an individual receives upon entry into the Air Force. Normally, this training is conducted by AETC at Keesler AFB. The QT is actual hands-on task performance training designed to both expand knowledge and understanding, while qualifying an individual in a specific duty position. Upgrade training identifies the mandatory courses, qualification requirements, and educational requirements for the assignment of a Special Experience Identifier (SEI). Continuation training is additional training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. In addition, the weather career field requires selected individuals to pursue advanced academic degrees (AAD) to meet job requirements. An AAD can be obtained through the graduate education program offered by the Air Force Institute of Technology (AFIT), or by obtaining 30 hours of graduate level meteorology courses at an accredited university. In addition to obtaining an AAD in traditional meteorology, the option exists to obtain an AAD in space sciences by obtaining 30 semester hours of graduate work in aeronomy at an accredited university.

**2. Use.** The plan will be used by MFM and supervisors at all levels to ensure a comprehensive and cohesive training program is available for each individual in the specialty.

2.1 AETC training personnel will develop and revise formal resident, non-resident, field and exportable training based upon requirements established by the users and documented in Part II of this CFETP. They will also work with the AFCFM to develop acquisition strategies for obtaining resources needed to provide the identified training.

2.2 MFMs will ensure their training programs complement the CFETP's mandatory initial, upgrade, and continuation training requirements. Identified requirements can be satisfied by OJT, resident training, contract training, or Distance Learning (DL) courses. MAJCOM-developed training to support the 15WX/A AFSC may be identified for inclusion into the plan.

2.3 Each individual will complete the mandatory training requirements specified in this plan. The list of courses in Part II will be used as a reference to support training.

**3. Coordination and approval.** The Weather Functional Manager (AF/XOW) is the approval authority. MAJCOM representatives and AETC training personnel, in coordination with dedicated Air Force Weather Agency (AFWA) training personnel, will identify and coordinate on the career field training requirements. The AETC training manager for 15WX will initiate an annual review of this document by AETC and MFMs to ensure currency and accuracy. Using the list of courses in Part II will eliminate duplicate training.

## ***Section B - Career Progression and Information.***

**4. Specialty Description.** The Weather Utilization Field encompasses policy, planning, direction, control, evaluation, and coordination of weather services. Included in this field are command, operation, administration, and technical inspection of units providing weather observing and forecasting service, weather studies, and scientific services relating to the influence of atmospheric and space environmental factors on military operations. These functions include surface, aerial, visual, and instrumental meteorological, solar, and geophysical observations; analysis, description, and forecasting of atmospheric and associated phenomena of earth and space; and participation in the development, testing, and implementation of observing and forecasting systems.

**4.1. Specialty Summary.** Weather officers lead and direct weather resources including observing, forecasting, staff weather, and administrative functions for Air Force and Army activities. They integrate current and forecast weather and space environmental conditions into operations and operational planning; In addition, they develop, direct and coordinate meteorological and space environmental studies and research; provide staff supervision and technical advice on environmental studies and research; command specialized meteorological, astrophysical, and geophysical units; and support the Air Force core weather function to provide meteorological and space environmental information for Department of Defense (DOD) air, ground, and space operations.

### **4.2. Duties and Responsibilities.**

4.2.1. Analyzes and evaluates meteorological products (visualizations) and data for changing weather conditions. Integrates weather analyses and reports with radar and satellite imagery interpretations. Briefs air crews and staff personnel on current and forecast weather. Makes route and flight forecasts. Supports intelligence preparation of the battlefield and synchronizes weather support activities with military operations. Instructs personnel on application of weather to operations, or interpretation and use of meteorological products. Provides forecasts of weather effects on personnel, equipment, weapon systems, tactics, and terrain.

4.2.2. Performs global analysis and forecast duties at weather and space centers. Provides weather warnings and advisories for adverse weather to worldwide DoD installations. Provides mission tailored forecasts for special operations. Integrates weather and weather effects into warfighter mission planning, rehearsal, simulation, execution, and battlefield environmental visualization. Leads Forecast Teams at Operational Weather Squadrons. Directs collecting, recording, reporting, and plotting of meteorological and space environmental observations, reanalysis of automated products, preparation of prognostic products and data, and use of meteorological equipment. Makes and directs studies to improve forecasting. Advises commanders and their staffs on capabilities and limitations of Air Force Weather support systems.

4.2.3. Conducts and directs meteorological, astrophysical, and geophysical studies and research. Prepares and adapts specialized forecasts, climatological, and other environmental studies for operational use. Identifies environmental sensitivities and recommends



modifications of instruments, equipment, and charts to provide adequate environmental support to weapons systems and technologies. Prepares publications on observing, analyzing, and forecasting meteorological, solar, astrophysical parameters required for environmental support. Recommends changes in environmental services dictated by advances in military weapons, tactics, and doctrine. Supervises research activities and directs gathering and preparing data for specialized environmental support activities. Directs activities such as weather centers and units supporting task forces and projects. Coordinates environmental support research activities with military and civilian agencies.

4.2.4. Provides technical meteorological services. Prepares and directs weather resources to support operational objectives. Writes directives on operational techniques and procedures to observe, analyze, and forecast atmospheric phenomena. Directs and prepares studies and reports to evaluate environmental support requirements.

4.2.5. Commands weather units, provides technical leadership, and supervises assigned personnel. Prepares and directs weather forces to support wartime and peacetime operational objectives.

**5. Skill and Career Progression.** Adequate training and timely progression from the entry level to the qualified level with SEI plays an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training does their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives viable training at appropriate points in their career.

**5.1. Entry Level (15W1).** Upon meeting the mandatory education requirements described in AFM 36-2105, the officer will be awarded the 15W1 classification and attend the Weather Officer's Initial Skills Course (WOISC) prior to arrival at his/her first duty station. Upon completion of the WOISC and assignment to an Operational Weather Squadron, officers will begin with formal Qualification Training (QT). ANG weather officers will normally attend the WOISC after assignment to their first weather duty location.

**5.2. Qualified Level (15W3).** After a minimum of one year in the designated duty position, and the successful completion of OWS QT, the officer is awarded the 15W3 classification.

**5.3. Qualified Level with SEI (15W3).** An SEI is assigned upon successful completion of the Officer Weather Flight Course, WF/Det QT, and a minimum of six months in their designated duty at a WF/Det, an SEI is assigned

**5.4. Staff Level (15W4).** This AFSC is awarded when an officer meets all the requirements for a fully qualified 15W3 weather officer, and is assigned at a Numbered Air Force (NAF) or higher headquarters.

**5.5. Advanced Academic Degree Suffix (A).** Award of the suffix is contingent upon meeting all requirements for award as defined in AFM 36-2105.

**6. Training Decisions.** The core of this CFETP evolves around a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the 15WX career field. The spectrum includes a strategy for when, where, and how to meet the training requirements. The strategy must take full advantage of all modes of training opportunities, yet minimize duplication of training

**6.1. Entry Level.** The Weather Officer Initial Skills Course (WOISC) will provide the entry-level weather officer with practical skills and knowledge to complement his/her academic work in weather concepts and theory. Instructional topics include forecasting techniques, the weather support system, forecast reasoning, wartime weather support, OWS operations, OWS system application, Next Generation Weather Radar (NEXRAD), Tropical Meteorology, Meteorological Satellite (METSAT), and career development. Thus, the WOISC is specifically tailored to the needs of the weather officer. The ultimate goal is to provide a well-rounded weather officer who is useful to the operational community, is well versed in weather operations, has the technical forecasting skills to assist operational decision makers, and is fully prepared with a foundation of knowledge to which formal Qualification Training can expand upon.

**6.2. OWS Qualification Training (QT).** The meteorological and weather application skills taught in the WOISC are expanded and advanced through OWS QT. This QT occurs at the officer's initial assignment (OWS) while serving on a Forecast Team. While serving on the forecast team, they will follow the guidelines of the OWS Qualification Training Master Training Plan (MTP). This MTP has key objectives and is administered through a combination of formal course work and hands-on mentorship. The course work includes a combination of Qualification Training Packages (QTPs), Technical References, and other meteorological training tools that cover the objectives of QT MTP. Under the supervision of a dedicated trainer, the course work material is administered with formal hands-on application, reinforcing the subject matter and maximizing training effectiveness. Distance Learning (DL) tools and Computer-Based Training will be used as appropriate. The QT is finalized with position level certification, ensuring the officer is prepared for his or her duties within an OWS (ex. Assistant Forecast Team Chief and Forecast Team Chief).

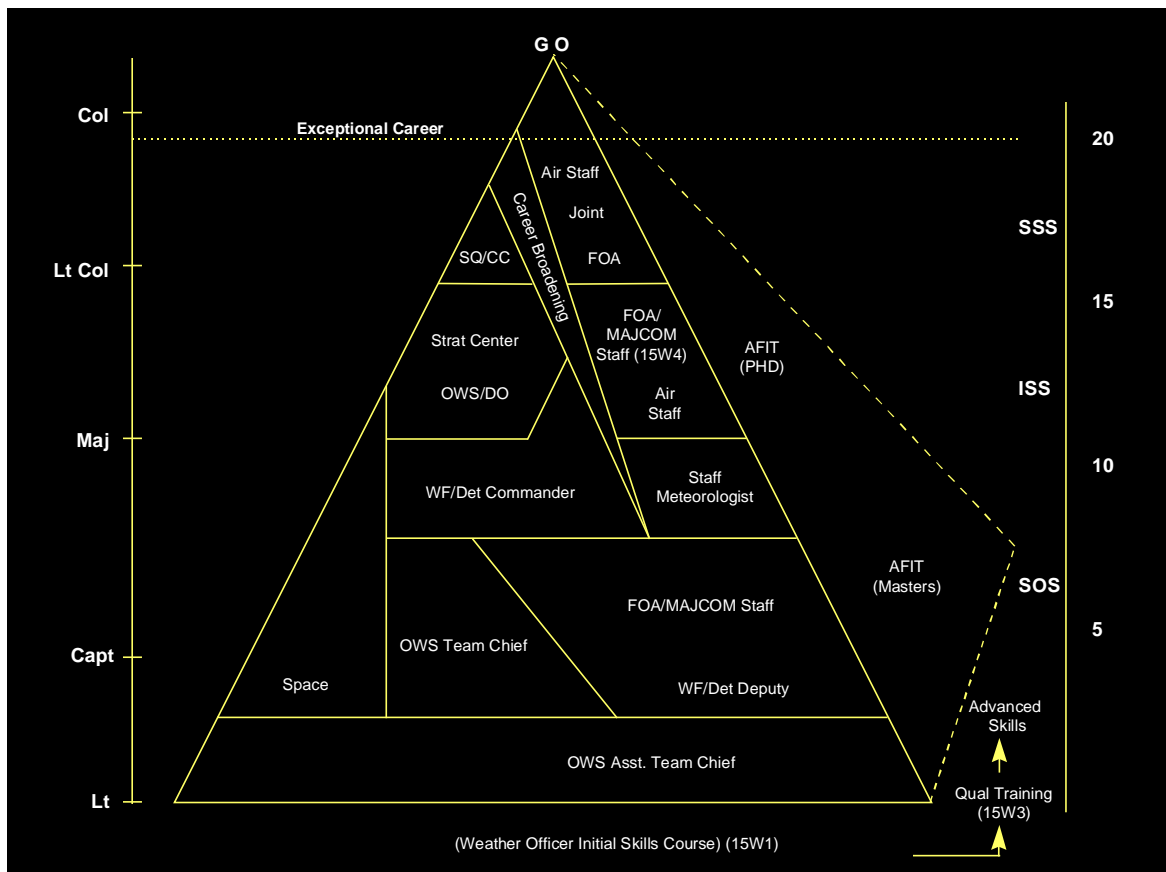
**6.3. Officer Weather Flight Course.** The Weather Flight Course will be prerequisite for an assignment at a Weather Flight (WF). This course will improve the officer's ability to provide tactical weather support, which in turn will enhance the warfighter's decision-making process and ability to conduct operations. The officer will be instructed in specific WF value-added support tasks that provide the warfighter the tactical advantages based on knowledge of impacts of weather on friendly and threat forces. In addition, combat field skills will be taught, preparing the officer for tactical field support.

**6.4 WF/Det Qualification Training.** The meteorological and weather application skills taught in the WF Course will be expanded and advanced through WF/Det QT. The WF/Det QT occurs at the officer's initial WF/Det assignment. While serving at the WF/Det, they will follow the guidelines of the WF/Det QT MTP. This MTP has key objectives and is administered through a combination of formal course work and hands-on mentorship. The

course work will include a combination of Qualification Training Packages (QTPs), Technical References, local references and training plans, and other training tools that cover the objectives of QT MTP. Although much of the material is standard across AFW, local mission-unique requirements will be covered.

**6.5. Continuation Training.** Any additional knowledge or skill requirements not taught in the WOISC, QT, WF Course, or MAJCOM-specific JQT will be met by continuation training. This type of training provides instruction on a variety of mission or theater-unique subjects, refresher training, or introduction of new knowledge or techniques affecting military weather support. It is provided through a variety of training media. Continuation training includes, but is not limited to, the training listed in Part II, Section A, of this plan.

## 7. Career Path



## Section C - Continuation Training Requirements

**8. Purpose.** Continuation training requirements in this career field are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for entry, award, and retention of each 15WX level. The specific task and

knowledge training requirements are identified in the Course Training Standard (CTS) and Training Course Index within Part II, Section A and B of this CFETP.

## **9. Specialty Qualification:**

### **9.1. Entry Level Training (15W1).**

#### **9.1.1. Specialty Qualification.**

9.1.1.1 **Knowledge.** Weather forecasting procedures and techniques

9.1.1.2. **Education.** Completion of 24 semester hours of college-level courses in meteorology, including 6 semester hours of dynamic meteorology and 6 semester hours of analysis and prediction of weather systems (synoptic/mesoscale).

9.1.2. **Training Resources.** The WOISC will be implemented by AETC at their designated location. All new weather officers will enroll in QT upon the successful completion of the WOISC.

9.1.3. **Implementation.** This is a learning stage for officers. All weather officers will attend the WOISC prior to their first assignment on active duty. Upon completion of the WOISC, the officer will be assigned to an OWS. *Note: Officers may be given a WOISC attendance waiver if they were previously a fully qualified weather forecaster or officer in an active duty or ANG weather unit. Waivers will be processed through and approved by HQ USAF/XOWR.*

### **9.2. Qualified Level Training (15W3).**

#### **9.2.1. Specialty Qualification.**

9.2.1.1. **Knowledge.** Thorough knowledge of weather forecasting, military operations, and OWS operations is required. Knowledge of Weather Flight/Detachment support to Air Force and Army missions is essential to OWS-WF collaborative operations. An officer must be certified as an OWS Assistant Forecast Team Chief prior to awarding of the 15W3 classification.

9.2.1.2. **Training.** Weather officers will receive direct QT as a 15W1. Continuation courses will be accomplished as appropriate.

9.2.1.3. **Experience.** A minimum of 12 months in designated duty is required for classification upgrade to 15W3.

9.2.2. **Training Resources.** Dedicated trainers will be used during the OWS QT. The OWS Assistant Forecast Team Chief MTP will be used to prepare trainees for position qualification and the certification checkride. The QT will be implemented by the OWS training flight.

9.2.3. **Implementation.** Throughout this stage for officers, the fundamentals of weather forecasting and support remain a priority. In addition, the aspects of technical leadership and

forecast processes are expanded. Officers with a 15W3 classification will continue to receive hands-on production experience as part of their Assistant Team Chief duties. They will also receive experience performing duties such as NAF support, meteorological coordination, planning, metrics, resource management, and Forecast Team Chiefs.

### **9.3. Qualified Level Training With SEI (15W3).**

#### **9.3.1. Specialty Qualification.**

9.3.1.1. **Knowledge.** Thorough knowledge of applied OWS and WF/Det weather forecasting and observing procedures, plus weather enhancement and techniques is required.

9.3.1.2. **Training.** Completion of the WF Course and WF/Det QT is required.

9.3.1.3. **Experience.** A minimum of 6 months in the designated duty at a WF/Det is required for awarding of the SEI.

9.3.2. **Training Resources.** The WF Course will be implemented by AETC at their designated location. The AFWA will assist AETC with this course as required.

9.3.3. **Implementation.** All officers will attend the WF Course prior to an assignment to a WF/Det.

### **9.4. Staff Level Training (15W4).**

#### **9.4.1. Specialty Qualification.**

9.4.1.1. **Knowledge.** Not Used

9.4.1.2. **Training.** Not Used

9.4.1.3. **Experience.** The officer must be a qualified weather officer (15W3).

9.4.2. **Training Resources.** Not Used

9.4.3. **Implementation.** The officer must be performing duties at a NAF or higher staff.

### **9.5. Advanced Academic Degree Suffix (A).**

#### **9.5.1. Specialty Qualification.**

9.5.1.1. **Knowledge.** Meteorological or space science research or application.

9.5.1.2. **Education.** Completion of 30 semester hours of graduate work in physical sciences such as astronomy, physical chemistry, geophysics, aeronomy, mathematics, meteorology, oceanography, space sciences, computer sciences, and physics and closely related physical

sciences beyond the mandatory educational qualifications for a weather officer is mandatory for entry into this AFSC.

9.5.1.3. **Training.** Not used.

9.5.1.4. **Experience.** Award of this AFSC requires a minimum of 2 years' experience as a fully qualified weather officer (15W3). In addition, it is mandatory this experience include 12 months within an advanced weather officer position.

#### ***Section D - Resource Constraints***

**10. Purpose.** This section identifies known resource constraints which preclude optimal and desired training from being developed or conducted, including information such as cost and manpower.

10.1. **Entry Level Training:** A new WOISC must be developed.

10.2. **Qualified Level Training:**

10.2.1. **Constraints.** The development of a OWS and WF/Det QT MTP and job certification is a new Air Force Weather career field concept. Dedicated resource structures are not yet in place to finalize QT standardized planning. In addition, QTP development lags may delay the arrival of QTPs to both the training flights at the OWSs and to WFs/Dets.

10.2.2. **Impact.** Development requires resources (i.e. manpower, funding, facilities, etc.) be committed in order to accomplish weather officer training requirements essential to ensure quality support to our war fighting customers.

10.2.3. **Resources Required.** A dedicated training flight at each OWS must be programmed for and established prior to implementation. Manpower for course analysis, development, and instructor personnel is required. Additional manpower for the development of training tools and references, to include QTPs, are required.

10.2.4. **Action Required.** AFWA is required to complete a training plan, materials, and any necessary reference materials prior to implementation.

10.2.5. **OPR/Target Completion Date.** AFWA/DN , December 1999.

10.3. **SEI Classification Award.**

10.3.1. **Constraints.** First-time development of an officer Weather Flight Course is a new Air Force weather career field concept. Many unprecedented topics are included with the Weather Flight Course. Pioneering developmental efforts are required.

10.3.2. **Impact.** Development requires resources (i.e. manpower, funding, facilities, etc.) be committed in order to accomplish weather officer training requirements essential to ensure quality support to our war fighting customers.

10.3.3. **Resources Required.** Manpower for training analysis, development, and instructor personnel is required. Student flow analysis is required. The manpower for the development of training tools, to include any QTPs and reference materials, are required.

10.3.4. **Action Required.** AETC will compute Course Resource Estimates (CRE) based on stated requirements and submit appropriate funding documentation through budget channels to formally establish requirements. Additionally, AFWA is required to complete a training plan, materials, and any necessary reference materials prior to implementation.

10.3.5. OPR/Target Completion Date: AETC and AFWA/DN, December 1999.

### ***Section E – Transitional Training Guide***

This section not used

## PART II

### *Section A - Course Training Standards*

**1. Purpose.** Course Training Standards (CTSs) serve dual purposes. They provide insight on the exact subject matter content of the courses and they are used to standardize weather training in order to meet all AFW officer-training requirements.

**2. Proficiency Designator Table.**

Proficiency Designator	Title	Military Course Requirements	Classification Experience Requirements
15W1	Entry Level	None	N/A
15W3	Qualified Weather Officer (OWS)	WOISC, OWS QT	12 mos in designated duty as an Assist Team Chief or Team Chief
15W3 (with SEI)	Qualified Weather Officer (OWS and CWT/Det)	WOISC, OWS QT, Officer WF Course, WF/Det QT	6 mos in designated duty at a WF/Det in addition to 15W3 requirements
15W3A	Qualified-Advanced Weather Officer	WOISC, OWS QT	Possession of AFSC 15W3; 2-yrs in 15W3 assignments (experience must include 12 months in an advanced weather officer billet)
15W4	Staff Officer	None	Fully-qualified 15W3 performing duties at NAF or higher staff

**3. Recommendations.** Comments and recommendations are invited concerning quality of AETC training. Reference this CTS and address correspondence regarding changes to 81 TRG/CCVT, 825 Hercules, Suite 101, Keesler AFB MS 39534-2037. A Customer Service Information Line (CSIL) has been installed for the supervisor's convenience to identify unsatisfactory performance of individual graduates or to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For quick response to problems, call our CSIL, DSN 597-4566, anytime day or night.



## WEATHER OFFICER

1. Implementation of training in support of this CTS is with class beginning 991203 and graduating 000323.

2. Purpose. This course training standard:

2.1. Establishes the training requirements using tasks, knowledge, and proficiency levels for course E3OBR15W1 002, Weather Officer.

2.2. Provides the basis for the development of more detailed training materials, training objectives, and training evaluation instruments for the course.

3. Course Description. This course provides training for Air Force officers, AFSC 15W1, in the knowledge and skills necessary to perform the duties of a Weather Officer. The scope of training includes career development; concepts of observing weather elements; decoding meteorological reports; weather analysis and prognosis; weather support systems; wartime weather support; operations of an Operational Weather Squadron (OWS); WSR-88D, Doppler Radar; meteorological satellite (METSAT); and concepts of weather communications.

4. Qualitative Requirements. Attachment 1 contains the task, knowledge, and proficiency levels referenced in paragraph 2. Dual codes for knowledge and/or tasks indicate that the item cannot be trained due to resource constraints. Those items indicate the established requirement followed by a slash mark (/) and an "X", for example: 2b/X or B/X. However, the training for those items will not be developed until the required resources are on hand.

5. Recommendations. Comments and recommendations are invited concerning quality of AETC training. Reference this CTS and address correspondence regarding changes to 81 TRG/CCVT, 825 Hercules, Suite 101, Keesler AFB MS 39534-2037. A Customer Service Information Line (CSIL) has been installed for the supervisor's convenience to identify unsatisfactory performance of individual graduates or to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For quick response to problems, call our CSIL, DSN 597-4566, anytime day or night.

OFFICIAL

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Commander

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Chief, Group Information Management

1 Atch  
Qualitative Requirements

Supersedes CTS EOBR15W1 001, December 1996  
Prepared by: 334 TRS/CCX  
Distribution: X (Continued on page 2)

## QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION: The Individual
TASK PERFORMANCE LEVELS	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task.
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task.
* TASK KNOWLEDGE LEVELS	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (COMPLETE THEORY)
** SUBJECT KNOWLEDGE LEVELS	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)
EXPLANATIONS		
* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)		
** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.		
- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course.		
x This mark is used alone in course columns to show that training is required but not given due to limitations in resources.		
Distribution: (Continued from page 1)		
<div> <div> HQ USAF/XOWR - 1  HQ PACAF/DOW - 1  HQ USAFE/DOW - 1  HQ AFMC/DOW - 1  HQ ACC/DOW - 1  HQ AMC/DOW - 1  334 TRS/TTMVT - 6  334 TRS/TTMVD - 8 </div> <div> HQ AWS/XORT - 1  ANGRC/XOOSW - 1  HQ AFSOC/DOW - 1  HQ AFSPC/DORW - 1  HQ AETC/XOSW - 1 </div> </div>		
AETC FORM 60, JUL 93      REPLACES ATC FORM 60, WHICH IS OBSOLETE      CTS PROFICIENCY CODE KEY		

## QUALITATIVE REQUIREMENTS

### Tasks, Knowledge, and Proficiency Level

Note: The same tasks/knowledge will be trained during the peacetime and wartime courses.

#### 1. CAREER DEVELOPMENT

1.1. Doctrine of Aerospace Weather Operations	B
1.2. Assignment Roles and Responsibilities	
1.2.1. Operational Weather Squadron (OWS)	B
1.2.2. Weather Flight Operations	B
1.2.3. Staff Positions	B
1.2.4. Enlisted	B
1.3. Career Progression Opportunities	B

#### 2. WEATHER SUPPORT SYSTEM

2.1. Centralized Weather Support	
2.1.1. Air Force Weather Agency (AFWA)	B
2.1.2. Initiate Support Assistance Request (SAR)	2b
2.2. Regional Weather Support	B
2.3. Weather Flight Support	B
2.4. Joint Support	
2.4.1. Policy	B
2.4.2. Operations	B
2.5. Interactions with other Services/Agencies	A

#### 3. WARTIME WEATHER SUPPORT

3.1. Mobility Concepts	B
3.2. Theater Battle Management	
3.2.1. Intelligence Preparation of the Battlefield (IPB)	B
3.2.2. Air Tasking Order (ATO)	B
3.2.3. Battlefield Sensing	B

#### 4. WEATHER IMPACTS ON WEAPON SYSTEMS

4.1. Land Operations	B
4.2. Air Operations	B
4.3. Sea Operations	B
4.4. Special Operations	B
4.5. Space Operations	B

5. CONCEPTS OF OBSERVING SURFACE WEATHER ELEMENTS	A
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**6. DECODE METEOROLOGICAL REPORTS**

6.1. METAR	2b
6.2. Radar	2b
6.3. Synoptic	2b
6.4. Pilot Report (PIREP)	2b
6.5. Aircraft Report (AIREP)	2b
6.6. Upper Air	2b
6.7. Terminal Aerodrome Forecast (TAF)	2b

**7. ANALYSIS AND PROGNOSIS**

7.1. Numerical Weather Prediction (NWP)	
7.1.1. Models	B
7.1.2. Initialize NWP Products	2b/X
7.1.3. Verify NWP Products	2b/X
7.2. Forecast Process (Funneling Process)	B
7.3. Climatology	
7.3.1. Physical characteristics of air masses	B
7.3.2. Operational Planning	B
7.3.3. Garrison Support	B
7.3.4. Regional Climatology Applied to Military Operations	B
7.3.5. Weather Regimes	B
7.3.6. Apply Climatology in Forecast Preparation	2c
7.4. Oceanography	B
7.5. Mid-latitude Weather Systems	
7.5.1. Vertical Consistency	B
7.5.2. Severe Weather	
7.5.2.1. Non-convective	B
7.5.2.2. Convective	B
7.6. Forecast Products	A
7.7. Analyze	
7.7.1. Surface Charts	2c
7.7.2. Upper-air Charts	2c
7.7.3. Non-convective Severe Weather Parameters	2c
7.7.4. Convective Severe Weather Parameters	2c
7.8. Reanalyze Centrally Produced Products	2c

7.9. Air Mass Sounding (Skew-T) Evaluation	C
7.10. Aviation Weather Hazard Forecasting	
7.10.1. Turbulence	B
7.10.2. Icing	B
7.11. Prepare	
7.11.1. Terminal Aerodrome Forecasts (TAF)	2b
7.11.2. Weather Watches	2b
7.11.3. Weather Warnings	2b
7.11.4. Weather Advisories	2b
7.12. Encode Terminal Forecast	2b
7.13. Perform Meteorological Watch	2b/X
7.14. Prepare and Present Weather Briefings	
7.14.1. Air-crew	2b/X
7.14.2. Staff	2b
7.15. Conduct Meteorological Discussion	2b/X
7.16. Weather Sensitivities of Electro-optic Systems	B
<b>8. SPACE ENVIRONMENT</b>	
8.1. Concepts of Space Weather	B
8.2. Implication to Weapon Systems	B
8.3. Apply Products to Operations	2b
<b>9. OPERATIONAL WEATHER SQUADRON (OWS)</b>	
9.1. Regional Analysis and Forecast Program	B
9.2. Weather Support Documents	B
9.3. Base/Post Operations	
9.3.1. Basic Flight Rules	A
9.3.2. Basic Flight Publications	A
9.3.3. Operational Weather Sensitivities	B
9.4. Computer Flight Plans	A
9.5. Support to Aircraft Mishap Boards	A
9.6. Overview of Fixed OWS Equipment	A
<b>10. OWS OPERATIONS SYSTEM</b>	
10.1 System Overview	B/X
10.2. Product Description	B/X
10.3. Operate Equipment and Software Applications	2b/X
10.4. Interpret Products	2b/X

**11. WEATHER RADAR**

11.1. Doppler Radar Theory	B
11.2. WSR-88D System Concepts	B
11.3. Operate Principal User Processor (PUP)	2b
11.4. Interpret WSR-88D Displays and Products	2b

**12. METEOROLOGICAL SATELLITE (METSAT)**

12.1. Principles and Systems Control	
12.1.1. Capabilities and Limitations of Satellite Systems	B
12.1.2. Data Display Techniques	B
12.2. Microwave Data Applications	
12.2.1. Algorithms and Derived Parameters	B
12.2.2. Displays and Applications	B
12.3. Satellite Imagery	
12.3.1. Systems	B
12.3.2. Imagery Features	B
12.3.3. Microwave Products	B
12.3.4. Relationships of Data to Meteorological Events	B
12.3.5. Depict Wind Flow	2b
12.4. Practical Application of Satellite Data	
12.4.1. Depict Wind Flow Using Streamlines on Satellite Data	2b
12.4.2. Interpret Meteorological Events Using Satellite Data	2b
12.4.3. Initialize NWP Products Using Satellite Data	2b/X
12.4.4. Forecast Meteorological Events by Integrating Satellite Data with Conventional Data	2b/X

**13. COMMUNICATIONS**

13.1. Organizational Structure of DoD/DCS C4 Systems	B
13.2. Data Flow and Air Force Weather (AFW)	B
13.3. Perform Pilot-to-METRO Service (PMSV) Contacts	2b

**14. TROPICAL**

14.1. Structure of tropical weather systems	B
14.2. Properties of tropical weather systems	B

## SUMMARY OF CHANGES

1. The CTS number was changed to E3OBR15W1 002.
2. Paragraph 1.2. Changed from "Meteorologist" to "Operational Weather Squadron (OWS)"
3. Paragraph 1.2.1. Changed from "Operational Meteorologist" to "Weather Flight Operations"
4. Paragraph 1.2.3 Changed from "Instructor Meteorologist" to Staff Positions"
5. Paragraph 1.2.4. "Command Meteorologist" was deleted; "Enlisted" was moved from paragraph 1.2.5. to 1.2.4.
6. Paragraph 2: "Weather Support System" was moved from paragraph 3.
7. The major paragraph heading, "Forecasting Techniques," was broken into several smaller topics that more accurately describe the job categories.
8. The paragraph on "Automated Weather distribution System (AWDS)" was changed to "OWS Operations System" and covers the system used at the Operational Weather Squadron (OWS).
9. The following tasks were deleted: "Observe weather elements," "Evaluate weather Elements," "Encode surface weather observations," Record surface weather observations," "Disseminate weather observations."
10. Paragraph 5. "Concepts of Observing Surface Weather Elements," was added.
11. Paragraph 12. "Meteorological Satellite (METSAT)," was expanded.
12. The paragraph on "Combat/Field Skills" was deleted.

### ***Section B - Course Objective List***

This section not used

### ***Section C - Support Materials***

This section not used

### ***Section D - Training Course Index***

**4. Purpose.** This section of the CFETP identifies available training courses for the specialty.

#### **4.1. Entry Level Awarding Course**

<b><u>Course Number</u></b>	<b><u>Title</u></b>	<b><u>Days</u></b>	<b><u>Location</u></b>
E3OBR15W1 002	Weather Officer	62	Keesler AFB

**4.2. Weather Officer Flight Course.** To be developed.

#### **4.3. Continuation Training Courses.**

<b><u>Course Number</u></b>	<b><u>Title</u></b>	<b><u>Days</u></b>	<b><u>Location</u></b>
E3OZR15W3 023	AWDS System Manager	10	Keesler AFB
E3OZP15W3 018	Combat Lightning (in existence until the start of the enlisted WF course)	6	Hurlburt Field
E3OSA15W3 001	Staff Weather Officer Army Indoctrination	10	Ft Huachuca
E3OZR15W3 002	Tropical Weather Analysis and Forecasting	16	Keesler AFB
E3OZR15W3 014	WSR-88D PUP Operator/ Manager	24	Keesler AFB
E3OZR15W3 015	WSR-88D UCP Operator/ Manager	5	Keesler AFB
E3OZP15W3 021	Small Tactical Terminal (STT) Operator	5	Hulburt Field



#### 4.4. MAJCOM Unique Courses

<u>Course Number</u>	<u>Title</u>	<u>Days</u>	<u>Location</u>
AMC AMOC	Air Mobility Operations Course (AMOC)	14	Ft Dix
AFSPC15W3 001	Space Environmental Forecaster	10	Falcon AFB
AFSPC15W3 002	Ionospheric Effects Forecaster	5	Falcon AFB
AFSPC2500 000	Solar Observing Optical Network (SOON)	25	Holloman AFB
AFSPC2600 000	Radio Solar Telescope Network Operator	5	Holloman AFB
ANG Goldwing	Goldwing Operators Course	5	Camp Blanding
ANGAWS	AWDS Operators Course	6	Camp Blanding
ANGWRC 001	ANG Weather Readiness Course	13	Camp Blanding
	European Theater Weather orientation (ETWO)	3	

#### 14.5 Computer Based Instruction.

<u>Title</u>	<u>Developer</u>
Workshop on Doppler Radar Interpretation	COMET
Boundary Detection and Convection Initiation	COMET
Heavy Precipitation and Flash Flooding	COMET
Forecast Process	COMET
Numerical Weather Prediction	COMET
Marine Meteorology	COMET
Extratropical Cyclones	COMET
Convective Storm Matrix: Buoyancy/Shear Dependencies	COMET
Anticipating Convective Storm Structure and Evolution	COMET
Satellite Meteorology: Remote Sensing Using the New GOES Imager	COMET
Hydrology for the Meteorologist : Basic Hydrology for Headwater Forecasting	COMET
Satellite Meteorology: Case Studies Using GOES Imager Data	COMET
Hydrology for the Meteorologist: The Headwater Forecast Process	COMET
Icing	COMET
Electro-Optics (EO)	AETC

#### 14.6 Courses Under Development and Revision.

<u>Course Number</u>	<u>Title</u>	<u>Days</u>	<u>Location</u>
E3OBR15W1 002	Weather Officer	TBD	Keesler AFB
TBD	Qualification Training (OWS)	TBD	Each OWS
TBD	Qualification Training (WF/Det)	TBD	Each WF/Det
TBD	Officer Weather Flight Course	TBD	TBD

#### *Section E – MAJCOM Unique Requirements*

This section not used

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

FRED P. LEWIS, Brig Gen, USAF  
Directorate of Weather  
DCS/Air and Space Operations



"Choose The Weather For Battle"